

CLAIMS

1. A device for the distribution of a liquid, viscous or pasty product in order for it to be retrieved with a tool or by the hand of a user, comprising a reservoir (1) for containing this product and emptying in a distribution zone (2, 7) for the retrieval of this product, characterized in that at least a part of the device upstream from the distribution zone is placed under excess pressure and in that the distribution zone (2, 7) comprises openings for preventing the product from exfiltrating in the absence of an action by the user, which excess pressure is adjusted as a condition of the use at a value lower than the pressure causing the using of the product when the device is at rest, which pressure is, moreover sufficient for causing the exfiltration of product on the distribution zone (2, 7) when the user exerts an action on this distribution zone (2, 7).

2. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the means for placing under pressure is constituted by the atmospheric pressure acting on the product itself.

3. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the part placed under excess pressure is formed by the product reservoir and that it comprises a means for placing the reservoir (1) under a permanent pressure greater than atmospheric pressure.

4. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the means for placing under pressure is constituted by a piston.

5. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 4, characterized in that this piston is loaded by a weight exerting a vertical force on the piston.

6. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 4, characterized in that this piston is subjected to the action of a spring supported on an adjustable base in order to adjust the pressure exerted on this piston by adjusting the pressure exerted by this spring.

7. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 4, characterized in that this piston is subjected to the action of an a base adjustable by a manual pressure in order to adjust the excess pressure exerted by this piston.

8. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 3, characterized in that the means for placing under pressure is constituted by a part of the reservoir (1) with a variable volume subjected to the action of a force for placing under tension.

9. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 8, characterized in that the part of the reservoir (1) with a variable volume is formed by a bellows.

10. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 3, characterized in that the means for placing under pressure is constituted by the product column and that the distribution zone (2, 7) is situated in the lower part of the reservoir (1).

11. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 3, characterized in that the means for placing under pressure is constituted by a first part of the cylindrical body in which a piston is positioned, which first part is separated from the second part containing the product to be distributed by a flexible membrane.

12. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 3, characterized in that the means for placing under pressure is constituted by a pump actuated by the product distribution zone.

13. The device for the distribution of a liquid or viscous or pasty product in accordance with any one of Claims 1 to 11, characterized in that the distribution zone (2, 7) comprises at least one slit whose dimensions are determined in such a manner as to prevent the exfiltration of products in the absence of an action on the surface of this distribution zone (2, 7).

14. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 13, characterized in that the distribution zone (2, 7) has a plurality of slits (3).

15. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 13, characterized in that the slits (3) form a multidimensional network.

16. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 13, characterized in that the slits form angles between 60 and 80° with the outer surface of the distribution zone (2, 7).

17. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 13, characterized in that the slits (3) are formed at the top of protuberances.

18. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 17, characterized in that the protuberances are constituted by hemispherical domes.

19. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 17, characterized in that the protuberances are constituted by lamellae.

20. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 13, characterized in that the slits (3) are formed between two consecutive protuberances.

21. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 13, characterized in that the surface of the distribution zone comprises protuberances adjacent to the slits (3), ensuring an opening of the slit during rubbing on the distribution zone.

22. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone (2, 7) is formed at the lower part of the liquid and obturates the product reservoir at rest.

23. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone (2, 7) is prolonged by a deformable inner blade (161) that comes to rest in contact with an outer blade (160), which blade (161) is elastically mobile in order to allow product contained in the reservoir (1) to exfiltrate when a pressure is exerted on the distribution zone (2).

24. The device for the distribution of a liquid or viscous or pasty product in accordance with the previous claim, characterized in that said conduit is deformed during the massage of the means for the retrieval of product in order to force the extraction of a dose of product.

25. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone (2, 7) communicates with the reservoir by an inverted valve.

26. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone (2) is placed on a plate integral with a pump (151) that causes the product to rise in the tube (152) extending into the reservoir (1).

27. The device for the distribution of a liquid or viscous or pasty product in accordance with the previous claim, characterized in that the plate (150) is hollow and that the cavity constitutes a buffer reservoir, closed by a distribution zone and containing the product to be distributed, that is exfiltrated when an action on the surface of the plate pushes it down and actuates the pump (150).

28. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the reservoir (1) placed in excess pressure opens onto the distribution surface (2) via two planes (160, 161) adjacent at rest, one of which plates (161) is flexible and prolongs the distribution zone (2).

29. The device for the distribution of a liquid or viscous or pasty product in accordance with the previous claim, characterized in that it also comprises a valve (162) for the outflow of the liquid, which valve is closed when the two plates (160, 161) are coupled under the effect of the memory of the shape of the materials tending to push the inner flexible plate (161) against the rigid outer plate (160).

30. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the reservoir empties onto the distribution zone (2) via deformable conduits (160 to 162) emptying on the distribution zone (2), which deformable conduits (160 to 162) are closed at their ends by a pinched slit when at rest.

31. The device for the distribution of a liquid or viscous or pasty product in accordance with the previous claim, characterized in that the reservoir (1) is placed vertically above the distribution zone (2).

32. The device for the distribution of a liquid or viscous or pasty product in accordance with and one of the previous claims, characterized in that the reservoir (1) is constituted by several compartments emptying onto the distribution zone (2).

33. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone (2) comprises a flexible membrane (200) forming hemispherical protuberances (210) slit by a slit (220), which membrane (200) rests on a rigid perforated plate (250) comprising orifices (260) opening on the hemispherical protuberances (210).

34. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone (2) comprises a flexible membrane (200) constituted by a thick structure with hemispherical protuberances (210) opening via distribution slits (220), and by semi-rigid intercalary zones.

35. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that it comprises a bottle pourer (270) located under or at the bottom of the bottle.

36. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the bottle pourer belongs to the distribution zone and is made from the same material.

37. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone is provided with a shoe (280) and forms a volume independent of the bottle (281), that forms, for its part, the reserve.

38. The device for the distribution of a liquid or viscous or pasty product in accordance with the previous claim, characterized in that the bottom of the bottle (281) is perforated by a hollow needle (282) forming a tube, located on the shoe.

39. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the product is contained in a flexible or elastic pocket (290).

40. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone, is provided with exterior reliefs like fibers, deposited in particular by flocking [flock spraying] or pitting [chipping, stitching], like lamellae, foam or grains immersed in the mass.

41. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the pocket (300) has the general shape of a bar of soap and is constituted by at least one flexible membrane.

42. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 30, characterized in that the deformable conduits (160, 161) emptying on the distribution zone (2) are obtained by flexible reliefs in boss beadings placed on a more rigid surface.

43. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 30, characterized in that the deformable conduits (160, 161) emptying on the distribution zone (2) are obtained by forcibly removing a flexible material from the mold, then by creating the exit slit for the liquid by cutting.

44. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone can be closed by a plug obturating the zone in order to render the distribution zone tight between the filling of the bottle and its use and between two periods of use.

45. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that the distribution zone is covered by a laminated [plasticized] adhesive obturating the zone in order to render the distribution zone tight between the filling of the bottle and its use.

46. The device for the distribution of a liquid or viscous or pasty product in accordance with Claim 1, characterized in that said product is contained in a flexible, elongated pocket and emptied by a mechanical action in a buffer reservoir closed by a distribution zone (2).